

We claim:

- 1           1.     A power distribution system comprising:  
2           at least one load;  
3           a plurality of power sources; and  
4           an interconnect arrangement including a plurality of interconnects, the  
5           interconnects connecting each load to a given number of the sources so that each  
6           load is fully powered and if any one source fails, all loads of the at least one load  
7           remain fully powered.
- 1           2.     The power distribution system of claim 1 wherein all of the sources are  
2           DC sources.
- 1           3.     The power distribution system of claim 1 wherein all of the sources are  
2           AC sources.
- 1           4.     The power distribution system of claim 1 wherein the at least one load,  
2           power source and interconnect arrangement comprises a power distribution  
3           subsystem, wherein the at least one load includes first and second X watt loads,  
4           wherein the plurality of sources includes first and second 2X watt sources, and  
5           wherein the interconnect arrangement includes interconnects that connect the first X  
6           watt load to the first and second 2X watt sources and the second X watt load to the  
7           first and second 2X watt sources.
- 1           5.     The power distribution system of claim 1 wherein the at least one load,  
2           power source and interconnect arrangement comprises a power distribution  
3           subsystem, wherein the at least one load includes a 2X watt load, wherein the  
4           plurality of sources includes first and second 2X watt sources, and wherein the  
5           interconnect arrangement includes interconnects that connect the 2X watt load to  
6           each of the first and second 2X watt sources.
- 1           6.     The power distribution system of claim 1 wherein the at least one loads,  
2           power sources and interconnect arrangement comprises a power distribution  
3           subsystem, wherein the at least one load includes a 4X watt load, wherein the  
4           plurality of sources includes first, second, and third 2X watt sources, and wherein the

interconnect arrangement includes interconnects that connect the 4X watt load to each of the first, second, and third 2X watt sources.

7. The power distribution system of claim 1 wherein the at least one load, power source and interconnect arrangement comprises a power distribution subsystem, wherein the at least one load includes a 5X watt load, wherein the plurality of sources includes first, second, third, fourth, fifth, and sixth 2X watt sources, and wherein the interconnect arrangement includes interconnects that connect the 5X watt load to each of the first, second, third, fourth, fifth, and sixth 2X watt sources.

8. The power distribution system of claim 1 wherein the at least one load includes a 10X watt load, wherein the plurality of sources includes first, second, third, fourth, fifth, and sixth 2X watt sources, and wherein the interconnect arrangement includes interconnects that connect the 10X watt load to each of the first, second, third, fourth, fifth, and sixth 2X watt sources.

9. The power distribution system of claim 1 wherein the at least one load includes first, second, third, fourth, fifth, and sixth X watt loads, wherein the plurality of sources includes first, second, and third 4X watt sources, and wherein the interconnect arrangement includes interconnects that connect each of the X watt loads to two of the 4X watt sources while connecting each of the 4X watt sources to four different ones of the X watt loads.

10. The power distribution system of claim 1 wherein the at least one load includes first, second, and third 2X watt loads, wherein the plurality of sources includes first, second, and third 4X watt sources, and wherein the interconnect arrangement includes interconnects that connect each of the first, second, and third 2X watt loads to two different ones of the 4X watt sources while connecting each of the first, second, and third 4X watt sources to two different ones of the 2X watt loads.

11. The power distribution system of claim 1 wherein the at least one load includes first and second 4X watt loads, wherein the plurality of sources includes first, second, and third 4X watt sources, and wherein the interconnect arrangement includes interconnects that connect each of the first and second 4X watt loads to each of the first, second, and third 4X watt sources.

1           12.    The power distribution system of claim 1 wherein the at least one load  
2 includes an 8X watt load, wherein the plurality of sources includes first, second, and  
3 third 4X watt sources, and wherein the interconnect arrangement includes  
4 interconnects that connect the 8X watt load to each of the first, second, and third 4X  
5 watt sources, and wherein the interconnect arrangement includes interconnects that  
6 connect the 8X watt load to each of the first, second, and third 4X watt sources.

1           13.    A power distribution system comprising:  
2           a plurality of loads;  
3           a plurality of power sources, the power sources having a collective capacity to  
4 fully power all of the loads; and  
5           an interconnect arrangement including a plurality of interconnects, the  
6 interconnects connecting each load to a given number of different ones of the  
7 sources so that each load is fully powered notwithstanding failure of any one of the  
8 sources.

1           14.    A method of distributing full power to each one of a plurality of loads  
2 comprising:  
3           providing a plurality of power sources, the power sources being sufficient in  
4 number and capacity such that a combination of less than all of the sources is  
5 sufficient to power each load; and  
6           connecting each load to a given number of the sources so that if any one  
7 source fails, each of the loads remains fully powered.